CHINA HUMANOID ROBOT

2026 WHRG takeaways: Applications broaden, autonomy bar raised

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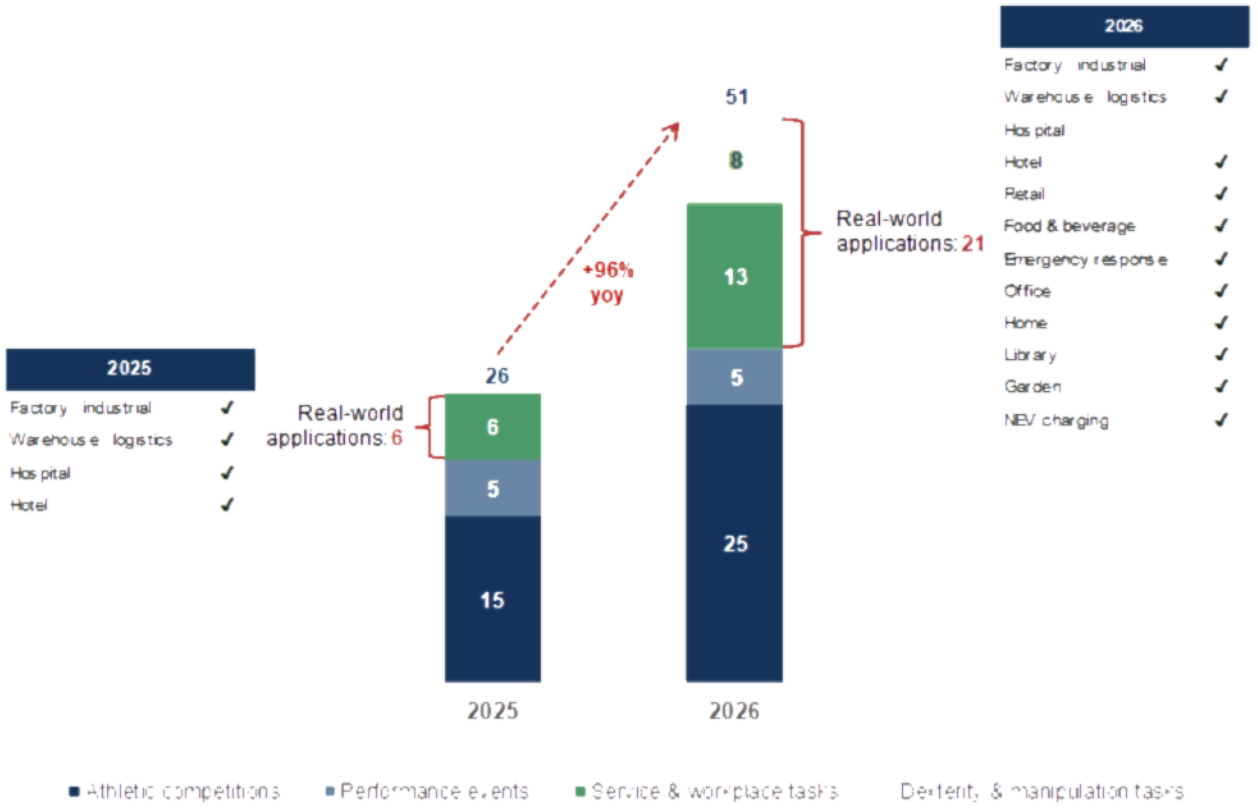
The 2026 World Humanoid Robot Games (WHRG), held in Beijing from August 22-26, **reinforced the industry's evolving direction towards and emphasis on practical application**, a trend previously observed at the World Robot Conference (see: 2026 WRC takeaways: Healthy shift to commercialization & ROI). This year's event scaled significantly, featuring 2,056 humanoid robots from 666 teams across 16 countries, representing a substantial 4x increase in participation compared to 2025. China remained the dominant participant, contributing 1,975 robots and 641 teams. **Crucially, the event mix became markedly more application-oriented**; real-world application events expanded from 6 to 21, constituting 60% of total event additions and elevating their program share from 23% to 41%. A new dexterous-hand category, focusing on fine manipulation, was introduced, alongside scenarios such as retail, housekeeping, firefighting, and office services, moving beyond traditional industrial and logistics environments. This transformation positions WHRG as a structured testing ground for useful humanoid capabilities rather than solely a showcase for athletic or entertainment feats.

The tighter rule framework further raised the bar for autonomy and system reliability. Most competitive events mandated full autonomy, with scenario events assigning a 1.0 scoring coefficient for fully autonomous operation versus 0.5 for remote control. Combined with shorter time limits in running events, WHRG served as a more demanding benchmark for motion control, power and thermal management, perception, decision-making, and task execution. While **AgiBot and Beijing Humanoid (both private) emerged as dominant winners in real-world applications and athletic competitions, respectively,** it is important to note that these results likely also reflect the allocation of engineering resources and preparation. Further, as with any competition setting, results are influenced by participant composition and event selection, so these rankings do not preclude the possibility of other firms not seen on the leadership board possessing competitive underlying capabilities.

Stock views: Amongst our coverage, we stay Buy on Inovance (on CL), Sanhua H, Shuanghuan; Neutral rated on Leaderdrive, Sanhua A, Luster, Best Precision; Sell rated on Moons' Electric.

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Exhibit 1: Real-world application events increased from 6 to 21 and broadened from 4 to 11 scenarios, extending beyond industrial and logistics settings into retail, food service, emergency response, office, home and other use cases
Total competition events and breakdown by type for WHRG 2026 vs. WHRG 2025



Source: Data compiled by Goldman Sachs Global Investment Research, WHRG official website

Exhibit 2: AgiBot and Beijing Humanoid as the dominant winners...
2026 WHRG medal leadership board; as of 26 Aug, 2026

Top 10	Gold	Silver	Bronze	Total
AgiBot	18	16	12	46
Beijing Humanoid	15	12	18	45
Galbot	3	1	1	5
Unitree	2	2	0	4
Lumos	2	1	0	3
Unix AI	1	1	1	3
Spirit AI	1	1	0	2
Yobotics	1	0	0	1
Galaxea	1	0	0	1
LinkerBot	1	0	0	1

1) Medal counts include company-affiliated teams, joint teams formed with universities or research institutes, and other teams using the company's robots; 2) Table tennis is excluded, as AgiBot Yuanzheng A3 was the designated robot platform for all participating teams.

Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 3: ...in real-world applications and athletic competitions respectively
2026 WHRG medal leadership board by competition categories; as of 26 Aug, 2026

Real-world applications Top 5	Gold	Silver	Bronze	Total
AgiBot	12	10	8	30
Beijing Humanoid	3	2	8	13
Galbot	3	1	1	5
Unix AI	1	1	1	3
Spirit AI	1	1	0	2

Athletic competitions Top 5	Gold	Silver	Bronze	Total
Beijing Humanoid	12	9	9	30
AgiBot	4	5	3	12
Unitree	1	1	0	2
Galaxea	1	0	0	1
Yobotics	1	0	0	1

Performance Top 5	Gold	Silver	Bronze	Total
AgiBot	2	1	1	4
Lumos	2	1	0	3
Beijing Humanoid	0	1	1	2
Unitree	1	1	0	2
LimX	0	1	0	1

1) Medal counts include company-affiliated teams, joint teams formed with universities or research institutes, and other teams using the company's robots; 2) Table tennis is excluded, as AgiBot Yuanzheng A3 was the designated robot platform for all participating teams.

Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

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contribution to this report.

Detailed takeaways

- **Elevated Autonomy and Reliability Benchmarks:** The WHRG rule framework significantly raised the bar for autonomous task execution and system reliability. Most competitive events mandated full autonomy, with scenario events assigning a 1.0 scoring coefficient for fully autonomous operation versus 0.5 for remote control. Tightened time limits in running events (e.g., 100m from 3 mins to 1 min) further demanded superior motion control, thermal management, power endurance, and overall system reliability, increasing the competitive advantage for robots with advanced perception, decision-making, and task execution capabilities.
- **Application-Oriented Event Design and Real-World Scenarios:** Real-world application ("scenario") events demonstrated a crucial evolution in design, moving beyond isolated actions to complex, multi-step operational workflows. Positively, six scenario events were conducted in authentic real-world settings (e.g., hotel rooms, firefighting facilities, school libraries), with others using 1:1 replicas, closely mirroring structured commercial deployment conditions. AgiBot notably excelled, securing 12 gold medals, including 5 in service/task and 7 in dexterous-hand events, with its Genie G2 winning in new firefighting and library scenarios, and OmniHand dominating dexterous-hand events.
- **Significant Motion Control Progress and Broader System Improvements:** Athletic events highlighted significant improvements in motion control, indicating continued progress in the "cerebellum" layer of the humanoid stack, an area where Chinese players maintain strong competitiveness. First-place results in track-and-field events showed material improvements over 2025 (e.g., 400m winning time improved by ~57% to 38.15 seconds). Beijing Humanoid's Tiangong platform was a clear outperformer in athletic competitions. Beyond podium rankings, the more important read-across is the broader improvement in whole-body coordination, autonomous navigation, power/thermal management, and system reliability, especially as new events like weightlifting tested load-bearing manipulation and stability relevant for future industrial applications.

Exhibit 4: Details of 2026 WHRG real-world applications

Event		2026 rules	2026 top 3 players	2026 score
Service & workplace tasks				
Retail Service	New	Autonomous	Galbot (Ningbo Jufan Intelligence)	300
		Autonomous	Galbot (Beijing Galaxy Xingshu)	300
		Autonomous	Galbot	300
Food & Beverage Service	New	Autonomous	Galbot (Beijing Galaxy Xingshu)	295
		Autonomous	Spirit AI	290
		Autonomous	Beijing Humanoid-SZU Alliance	290
Industrial - Assembly & Feeding	New*	Autonomous	AgiBot Chengdu Team	237
		Autonomous	AgiBot Shanghai Team	225
		Autonomous	Lingxi Zhiyong	160
Industrial - Packing & Warehousing	New*	Remote controlled	AgiBot Beijing Team	150
		Remote controlled	AgiBot Chengdu Team	150
		Remote controlled	AgiBot Wuxi Team	145
Emergency - Emergency Response	New	Autonomous	AgiBot Shenzhen Team	250
		Remote controlled	Unix AI	150
		Remote controlled	AgiBot Wuxi Team	150
Office General Service	New	Autonomous	Spirit AI	190
		Remote controlled	AgiBot Shenzhen Team	150
		Remote controlled	AgiBot Ningxia Team	150
Household Service	New	Autonomous	Galbot	305
		Autonomous	God of Competition Team	297
		Autonomous	Honghu Wanli Team	249
Emergency - Fire Rescue	New	Remote controlled	AgiBot Genie G2	150
		Remote controlled	AgiBot Genie G2	150
		Remote controlled	UniX AI	137.5
Hotel Guest Service		Remote controlled	Unix AI Panther	145
		Remote controlled	AgiBot Genie G2	130
		Autonomous	AgiBot Genie G2	83
Library Book Sorting	New	Autonomous	AgiBot Genie G2 (Tsinghua-SJTU-AgiBot Team)	270
		Autonomous	Tianyi 2.5 (Beijing Humanoid Team)	240
		Remote controlled	AgiBot Genie G2	150
Garden Management	New	Autonomous	Beijing Humanoid-Henan UST CS Team	300
		Autonomous	SCUT-AgiBot Juxing Team	300
		Autonomous	Beijing Humanoid-SZU Alliance	300
NEV Smart Charging Service	New	Autonomous	Tianyi 2.5 (Beijing Humanoid-KNEWBOTS Team)	300
		Autonomous	Qingyu Team	300
		Autonomous	Tianyi 2.5 (Beijing Humanoid-USTB-Beihang Alliance)	160
Dexterity & manipulation tasks				
Power Tool Assembly	New	Autonomous	LinkerBot	17
		Remote controlled	BIGAI	9
		Remote controlled	AgiBot OmniHand	9
Powder Weighing	New	Autonomous	AgiBot OmniHand (WHU-AgiBot Team)	0:27.00 min
		Remote controlled	Dream-Tianji-AIO Alliance	0:17.00 min
		Remote controlled	Beijing Humanoid-BJTU-BCI Zhixing Team	0:23.00 min
Block Building	New	Autonomous	AgiBot OmniHand	20 blocks (2:07.00 min)
		Autonomous	Galaxy Xingcan Team (Shanghai Dianji University)	20 blocks (3:22.00 min)
		Remote controlled	AgiBot OmniHand	20 blocks (2:08.00 min)
Nail Fastening	New	Remote controlled	AgiBot OmniHand	9
		Remote controlled	AgiBot OmniHand	9
		Remote controlled	Beijing Humanoid–BUPT Feiyan Team	8.5
Cap & Lid Opening	New	Remote controlled	AgiBot OmniHand	10
		Remote controlled	AgiBot OmniHand	9
		Remote controlled	AgiBot OmniHand	8.5
Box & Package Unpacking	New	Remote controlled	AgiBot OmniHand	3
		Remote controlled	AgiBot OmniHand	2.5
		Remote controlled	Beijing Humanoid–BJTU–BrainCo–Changingtek Joint Team	2.5
Tweezers Bean Picking	New	Autonomous	AgiBot OmniHand	70
		Remote controlled	AgiBot OmniHand	44
		Remote controlled	Beijing Humanoid-BJTU-BCI Siyuan Team	35.5
Cable Connection	New	Remote controlled	AgiBot OmniHand	4
		Remote controlled	Dream-Tianji-AIO Joint Team	4
		Remote controlled	Beijing Humanoid–BISTU–Xingchi Intelligent Machinery Team	4
Integrated challenge (pentathlon)				
Integrated challenge	New	Remote controlled	Tiangong	7:38.00 min
		Remote controlled	Beijing Humanoid-Xiangjiang Times Team	15:53.00 min
		Remote controlled	BIGAI	15:00.00 min

* Industrial events were restructured in 2026, replacing the three material handling/sorting categories used in 2025 with two broader scenarios: Assembly & Feeding and Packing & Warehousing.

Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 5: Details of 2026 WHRG athletic competitions - track & field events

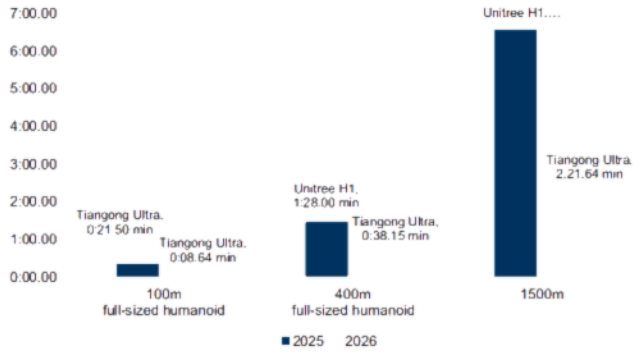
Event	2026 rules	2026 top 3 players	2026 result	2025 rules		2025 top 3 players	2025 result	Improvement / (regression) (sec/m)
Track & field								
100m Full-sized humanoid (>1.6m)	Full autonomy mandatory	Tiangong Ultra (Tianjiao Team)	0:08.64 min	Autonomous or remote-controlled, **20% time discount if robot was fully autonomous**	Autonomous	Tiangong Ultra	0:21.50 min	12.86 sec
		Tiangong Ultra (Tianxiao Team)	0:08.65 min		Remote controlled	Unitree H1 (Beijing Lingyi team)	0:22.08 min	13.43 sec
		Honor Lightning	0:08.83 min		Remote controlled	Unitree H1 (Shanghai Gaoyi team)	0:24.53 min	15.70 sec
400m Full-sized humanoid (>1.6m)		Tiangong Ultra	0:38.15 min		Remote controlled	Unitree H1(Shanghai Gaoyi team)	1:28.00 min	49.85 sec
		Honor Lightning	0:39.45 min		Autonomous	Tiangong Ultra	1:35.00 min	55.55 sec
		Honor Lightning	0:39.66 min		Autonomous	Tiangong Ultra	1:40.00 min	60.34 sec
1500m		Tiangong Ultra (Tianzhuo Team)	2:21.64 min		Remote controlled	Unitree H1 (Beijing Lingyi team)	6:34.00 min	252.36 sec
		Honor Lightning	2:30.00 min		Autonomous	Tiangong Ultra	6:55.00 min	265.00 sec
		Honor Lightning	2:30.22 min		Remote controlled	Unitree H1	7:10.00 min	279.78 sec
		Tiangong Ultra	2:20.79 min		Remote controlled	Unitree H1	1:48.00 min	(32.79 sec)
4×100m Relay		n.a			Autonomous	Tiangong Ultra	2:22.00 min	-
		n.a.			Remote controlled	Yobotics	2:37.00 min	-
100m Small-sized humanoid (<1.3m) New		Tiangong Omni (Tianxiao Team)	0:11.98 min					-
		Tiangong Omni (Tianzhuo Team)	0:12.16 min	n.a	n.a		n.a	-
		Honor Yuanqizai	0:12.19 min					-
400m Small-sized humanoid (<1.3m) New		Tiangong Omni	0:45.66 min					-
		Honor Yuanqizai	0:48.47 min	n.a.	n.a.		n.a.	-
		Tiangong Omni (Tianxiao Team)	1:14.80 min					-
100m obstacle course	Autonomous or remote-controlled	AgiBot Lingxi X2	1:28.32 min	Autonomous or remote-controlled	Remote controlled	Unitree G1 (Shanghai Gaoyi team)	0:33.00 min	(55.32 sec)
		Tiangong Omni (Tianxiao Team)	1:39.97 min		Remote controlled	Unitree G1 (Beijing Lingyi team)	0:38.00 min	(61.97 sec)
		AgiBot Lingxi X2	1:40.35 min		Remote controlled	Unitree G1	1:02.00 min	(38.35 sec)
400m obstacle course New		Tiangong Omni (Tianjiao Team)	4:11.44 min					-
		AgiBot Lingxi X2	4:19.13 min	n.a.	n.a.			-
		Tiangong Omni	4:32.65 min					-
Standing broad jump	Autonomous or remote-controlled	Tiangong Ultra (Tianzhuo Team)	4.83m	Autonomous or remote-controlled	Remote controlled	Noetix Robotics N2	1.25m	3.58m
		Tiangong Ultra (Tianjiao Team)	4.75m		Remote controlled	Unitree G1 (Unitree Technology)	1.20m	3.55m
		Tiangong Ultra (Tianxiao Team)	4.64m		Remote controlled	Unitree G1 (Shanghai Lingyi team)	1.13m	3.51m
Standing high jump		Tiangong Ultra (Tianzhuo Team)	3.40m		Remote controlled	Robotera L7	0.95m	2.45m
		Tiangong Ultra (Tianxiao Team)	3.29m		Remote controlled	Qijiang	0.87m	2.42m
		Tiangong Ultra	3.26m		Remote controlled	MagicBot Z1	0.52m	2.74m
Long jump New		Tiangong Ultra (Tianjiao Team)	7.97m					-
		Tiangong Ultra (Tianzhuo Team)	7.24m	n.a.	n.a.			-
		Tiangong Ultra	7.19m					-

Only the 100m, 400m, 1,500m, 4×100m relay, standing broad jump and standing high jump events are directly comparable between 2025 and 2026. The 2026 100m obstacle-course event is not directly comparable despite retaining the same event name, as the course incorporated additional challenges including steps, narrow passages and uneven terrain.

Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 6: Significant speed improvement amongst running events

First-place results in selected track events, 2025 vs. 2026



Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 7: First place jumping results more than tripled vs last year

First place results in the standing broad jump and standing high jump, 2025 vs. 2026



Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 8: Details of 2026 WHRG athletic competitions (cont'd)

Event		2026 rules	2026 top 3 players	2026 score
Gymnastics				
Floor Exercise		Full autonomy mandatory	Galaxea Kengo (Galaxea Starship Team)	269
			AgiBot Lingxi X2	268.25
			AgiBot Lingxi X2	266.25
Table tennis				
Singles (1v1)	New*	Full autonomy mandatory	AgiBot Yuanzheng A3 (Peking University-BAAI Joint Team)	-
			AgiBot Yuanzheng A3 (HKU SMASH Team)	-
			n.a.	-
Kickboxing				
Lightweight (40kg class)	New*	Autonomous or remote-controlled	Unitree G1 (North China Electric Power University)	-
			Unitree G1	-
			Bingcheng Iron Armor Team	-
Heavyweight (58kg class)	New*		AgiBot-Shanghai Theatre Academy GoGo Team	-
			AgiBot Beijing Team	-
			Shanghai University of Sport–AgiBot Joint Team	-
Super Heavyweight (80kg class)	New*		BISTU–Beijing City University Joint Team	-
			BISTU Singularity Team	-
			Beijing Police College TuJing Team	-
Weightlifting				
Lightweight (≤40 kg)	New	Autonomous or remote-controlled	n.a.	-
			n.a.	-
			n.a.	-
Heavyweight (40-80 kg)	New		Tiangong 3.0 (Beijing Humanoid-HUST Joint Team)	-
			Tiangong 3.0 (Tianzhuo Team)	-
			Tiangong 3.0 (Tiangong Team)	-
Tug of war				
Lightweight (≤40 kg)	New	Full autonomy mandatory	Yobotics (Xingzhe Taishan)	-
			Thor	-
			RUC-HiLigh	-
Heavyweight (40-80 kg)	New		Tiangong 3.0	-
			Tiangong 3.0 (Beijing Humanoid-HUST Joint Team)	-
			Tiangong 3.0 (Humanoid–HUST School of Mechanical Engineering Joint Team	-
Pitch pot				
Wheeled	New	Full autonomy mandatory	AgiBot Chengdu Team	15
			AgiBot Shanghai Team	15
			RUC–Beijing Humanoid–iYZhuo Team	10
			Qijiang	5
Bipedal	New		RUC–Beijing Humanoid–uYTian Team	-
			Beijing Humanoid–HUST Joint Team	-
Soccer				
5v5 Small-sized humanoid (<1.25m)		Full autonomy mandatory		-
			n.a.	-
				-
5v5 Full-sized humanoid (1.25m-1.90m)			Tsinghua Vulcan Team	-
			SPQR Team	-
			n.a.	-
3v3 Small-sized humanoid (<1.25m)				-
			n.a.	-
				-

1) New with an asterisk (*) denotes that the events existed only as peripheral events in 2025 and therefore do not have directly comparable results versus 2026. 2) Results for lightweight weightlifting and soccer had not been disclosed as of 26 Aug, 2026.

Source: WHRG official website, Company data, Data compiled by Goldman Sachs Global Investment Research

Exhibit 9: Details of 2026 WHRG performance events

Event		2026 rules	2026 top 3 players	2026 score
Street dance				
Breakdance, etc.	New	Full autonomy mandatory	B-BOT Luxiaoming	-
			Lumos Robotics	-
			Capital Normal University Nailong Team	-
Dance sport				
International Standard Dance	New	Full autonomy mandatory	BDA-AgiBot Joint Team	90.43
			LimX	87.64
			CUPES-Noetix Joint Team	86.29
Cheerleading	New		Luxiaoming (Lumos)	93
			Beijing Humanoid-BDA Humanities Team	92.71
			BDA-Beijing Humanoid Joint Team	92.56
Wushu				
Tai Chi	New	Full autonomy mandatory	AgiBot Yuanzheng A3	40.5
			Unitree G1	21.21
			China Mobile Lingxi Robot	17.96
Optional Boxing Routine	New		Unitree (Shanghai Gaoyi Team)	84
			AgiBot Wuxi Team	75.21
			AgiBot Ningxia Team	74.28

Source: WHRG official website , Company data, Data compiled by Goldman Sachs Global Investment Research

Investment thesis, price targets, risks & methodology

Investment Thesis - Shenzhen Inovance

Shenzhen Inovance is a domestic leader in industrial automation. We like the company's growth outlook given: 1) although its two key products, i.e., inverter/servo already reached 25%/33% or No.1/No.1 in China as of 2025, the company still has opportunities in overseas markets; 2) we expect the company to gain market share in small/large PLC, which will serve as a building block for it to extend into digitalization and transform into an IoT solution provider; 3) EV components continue to ramp up share on top of fast industry growth; and 4) digitalization business development with the potential to exceed our expectations. We view Inovance's major competitive moats that will underpin its resilience through cycles as: 1) industry leading R&D effectiveness with high success rates for new product lines; and 2) a comprehensive product portfolio and end-market coverage that reinforce customers' switching costs. We view valuation as attractive given the shares are trading at around historical average multiples with a solid long-term growth and return profile; we are Buy rated.

Price Target Risks and Methodology - Shenzhen Inovance Technology Co.

Valuation methodology: Our 12-month TP of Rmb92.90 is based on 35x 2027E P/E at 9.5% CoE.

Key downside risks: 1) Slower-than-expected industrial automation market share gains; 2) Weaker-than-expected margin trends; 3) EV component segment ramp-up coming

slower than expected; 4) general manufacturing capex/automation demand slowing down.

Investment Thesis - Shuanghuan Driveline

Shuanghuan Driveline is one of the largest gear manufacturers in China and one of the few capable of producing high-precision gears. We believe Shuanghuan's EV gear revenue will deliver an 18% CAGR in 2026-30E, driven by rising content value from higher co-axial gearbox penetration and market share gains in ex-China markets. In parallel, Shuanghuan is proactively developing new growth drivers in intelligent transmission gears, for which we forecast a 27% CAGR in 2026-30E, expanding applications from robotic vacuum cleaners to e-bikes and intelligent vehicles, while also conducting R&D on robotic reduction gears and cooperating with more industrial and humanoid robot OEMs on new reduction gear designs. We forecast 15%/16% firmwide revenue/net profit CAGR in 2026-30E, reflecting internal operational efficiency improvements that should offset lower margins at overseas factories in Hungary and potentially Vietnam. We are Buy rated on consistently better-than-expected margins and operational resilience, and we believe future catalysts include faster overseas passenger-vehicle gear share gains and better-than-expected GPM improvement.

Price Target Risks and Methodology - Shuanghuan Driveline

Valuation: Our 12-month TP of Rmb45.50 is based on 25x 2027E P/E.

Downside risks: 1) Lower-than-expected market share in NEV segment; 2) Lower-than-expected new energy revenue outlook; 3) Lower-than-expected industrial robot gears revenue.

Investment Thesis - Leader Harmonious Drive Systems Co.

We are Neutral rated on LeaderDrive, the domestic leader in China's harmonic reduction gear market. We are positive on the company for its growing harmonic reduction gear TAM expansion, driven by a broadening set of applications both domestically and globally across industrial robots, collaborative robots, humanoid/service robots, CNC machine tools and other high-end equipment, including solar, SPE, medical and aerospace. Beyond its core harmonic reduction gear business, LeaderDrive has also been expanding its humanoid robot product offering toward higher-content integrated modules, combining reducers with motors, encoders and sensors, which should support higher value per robot versus selling standalone components. The company continues to gain traction with overseas partners including volume shipments to the Chinese factories of at least two of the Big 4 international robot brands since 2024 and expects more meaningful revenue contribution into the next few years. While we are constructive on the company's long-term growth potential and see gradual humanoid robot contribution kicking in, we maintain our Neutral rating as valuation already appears to price in substantial long-run humanoid growth, leaving a more balanced risk-reward despite the company's improving content value and customer traction.

Price Target Risks and Methodology - Leader Harmonious Drive Systems Co.

Target price: Our 12-month target price for Leader Harmonious Drive Systems Co. is Rmb186.7, based on a 2030E P/E of 50x discounted back to 2027E with an 11.5% CoE.

Upside risks: (1) faster-than-expected volume production and/or technology

advancement of humanoid robots; (2) faster-than-expected penetration into key robot customers (especially foreign brands). Downside risks: (1) worse-than-expected domestic industrial/collaborative robot demand; (2) more competition pressure from overseas and local brands.

Investment Thesis - Sanhua Intelligent Controls

Sanhua is a global leader in HVAC control & thermal management components. We like its growth potential in humanoid robot actuators on top of a solid market leadership position in its core business, and expect it to deliver 16%/17% revenue/net profit CAGR in 2025-30E. On the HVAC component segment, we believe the company is well positioned to deliver revenue growth above the residential HVAC industry, driven by commercial HVAC market share gain and ramp up in sensor products. On the EV thermal management segment, we believe the company's revenue growth will be driven by further global EV penetration increase and modest content value gain. In addition, we see humanoid robots as a significant long-term technology trend, with Sanhua likely to secure a key role in the supply chain, as a high visibility actuator assembler. Catalysts include technology advancement in humanoid robot functionality, volume production for humanoid robot big customers, and further EV penetration in Europe. However, we think the market has priced in a too bullish outlook for humanoid robots compared to rather a delayed timeline of Optimus production. We are Neutral/Buy-rated on Sanhua-A/H.

Price Target Risks and Methodology - Sanhua Intelligent Controls

Valuation: Our 12m target price for Sanhua A/H is Rmb39.8/HK$41.2, based on 2030E P/E of 25X, discounted back to 2027E with a COE of 9.5%.

Sanhua-A key upside/downside risks: (1) Faster/Slower-than-expected revenue contribution from humanoid robots; (2) Better/Worse-than-expected global EV sales; (3) Better/Worse-than-expected home appliance sales.

Sanhua-H key downside risks: (1) Slower-than-expected revenue contribution from humanoid robots; (2) Worse-than-expected global EV sales; (3) Worse-than-expected home appliance sales.

Investment Thesis - Luster LightTech Co.

Within the fast-growing machine vision sub-sector, we expect Luster's market share in traditional machine vision systems to grow mildly on the back of solution capabilities to service big customers and selective in-house software, cameras and lenses. Beyond traditional machine vision, Luster has been expanding into higher-growth new businesses, including ESS/new energy, AI servers and optical modules, which should support a more favorable product mix and margin profile over time. Starting from 2025, Luster's FZMotion motion capture system also began to increase its exposure to humanoid robot data collection, creating a second growth driver alongside its core machine vision business. While we are constructive on Luster's long-ter potential from humanoid MoCap (motion capture) business and higher- businesses, we maintain our Neutral rating as valuation already appears this business mix improvement and humanoid-related optionality.



Price Target Risks and Methodology - Luster LightTech Co.
Price target: Our 12-month target price of Rmb40.1 is based on a 2030E P/E of 30x discounted back to 2027E with a CoE of 11.5%.

Upside/downside risks: (1) Faster/slower-than-expected penetration and recovery in new energy sector; (2) Faster/slower-than-expected development on vision software; (3) Better/worse-than-expected motion capture business development; (4) Easing/Intensifying pricing competition in the machine vision industry.

Investment Thesis - Best
We believe the company is on track to become a competitive supplier of planetary roller screws (PRS) for humanoid robots, on the back of stable auto parts business growth (including ICEs and EVs). We adopt a long-term valuation approach for the company given the potential benefits we expect it to reap from entering the supply chain of high-spec humanoid robots, where we forecast global shipments to increase from c.20k units in 2026E to c.128k units in 2030E, supporting sustained demand growth for planetary roller screws. We forecast Best's global shipment share in high-spec humanoid PRS to increase progressively from 1% in 2026E to 5% by 2030E, reflecting an expected expansion of customer adoption and supply-chain penetration as humanoid deployments scale, on the back of precision manufacturing experience gathered from fixtures products and the capacity support from equipment procurement. Meanwhile, commercialization of machine tool components is on track with ball screws and linear guides starting to see adoption by a few domestic machine tool makers in 2024. That said, we believe the risk-reward is fair as compared to our China Industrial Tech coverage and within the humanoid robot supply chain stocks, and hence we are Neutral-rated.

Price target: Our 12-month target price of Rmb22.5 is based on a 2030E P/E of 32x discounted back to 2026E at a CoE of 9.5%.

Upside/downside risks: (1) faster transmission components development; (2) faster EV parts capacity ramp-up. Downside risks: (1) slower turbocharger penetration growth; (2) lower-than-expected margins.

Investment Thesis - Moons' Electric
We are Sell-rated on Moons' Electric, a domestic leader in motor and drive solutions. We expect the company to become an important player in the humanoid robot coreless motor supply chain, supported by its leading position in coreless motor products and broader motion-control capabilities. However, we remain cautious on the magnitude and profitability of this opportunity, given 1) potential for lower-than-previously-expected coreless motor adoption in dexterous hands amid a still-evolving technology roadmap; 2) intensifying competition across the coreless motor supply chain; and 3) near-term margin pressure from higher R&D and marketing expenses, raw material inflation, and early-stage investment in new businesses with limited economies of scale. While Moons' Electric's 2025 topline was supported by solid growth across FA, auto, robot and 3D-printing end-markets, and key products such as servo systems, coreless motors and automation systems continued to grow strongly, profitability has remained under pressure. Management is focused on cost reduction, supply-chain optimization and stricter expense control, but we see limited margin upside in the near term. After factoring in the company's humanoid robot growth potential in humanoid robots and its main business (Motors and Drives), we maintain our

Sell rating as near-term margin pressure and execution uncertainty keep the risk-reward less compelling relative to other opportunities in our coverage.

Price Target Risks and Methodology - Moons' Electric

Valuation: Our 12-month target price of Rmb35.5 for Moons' Electric is based on an unchanged 2030E P/E of 37x, discounted back to 2027E at a CoE of 9.5%.

Upside risks: (1) faster-than-expected humanoid robots progress; (2) higher coreless motor adoption in dexhand or blended market share vs. our expectations; (3) stronger-than-expected product competitiveness and share gain progress in Motors & Drives.